Claims

1. A method for treating a subject to inhibit a vaso-occlusive event comprising administering to the subject an MPL pathway inhibitory agent in an amount effective to reduce platelet count in the subject to a low normal level.

2. The method of claim 1, wherein the vaso-occlusive event is an occlusion of a stent or an occlusion of a blood vessel.

3. The method of claim 1, wherein the vaso-occlusive event is intimal hyperplasia.

4. The method of claim 1, wherein the vaso-occlusive event is a thrombotic event.

5. The method of claim 4, wherein the thrombotic event is a thromboembolic event.

6. The method of claim 4, wherein the thrombotic event is a primary thrombotic event.

7. The method of claim 4, wherein the thrombotic event is a secondary thrombotic event.

8. The method of claim 4, wherein the thrombotic event is selected from the group consisting of arterial thrombosis, coronary thrombosis, venous thrombosis, microvascular thrombosis, stent thrombosis, graft thrombosis and heart valve thrombosis.

9. The method of claim 4, wherein the vaso-occlusive event is selected from the group consisting of myocardial infarction, stroke, transient ischemic attack and coronary stenosis.

10. The method of claim 1, wherein the subject is otherwise free of symptoms calling for treatment with the agent.

11. The method of claim 1, wherein the subject does not have a hematological proliferative disorder.

12. The method of claim 1, wherein the subject is apparently healthy.

13. The method of claim 1, wherein the subject exhibits symptoms of a vaso-occlusive event.

14. The method of claim 1, wherein the subject has a normal platelet count.

15. The method of claim 1, wherein the subject is a human.

16. The method of claim 1, wherein the subject has an abnormally elevated risk of a thrombotic event.

17. The method of claim 1, wherein the subject has vascular disease.

18. The method of claim 17, wherein the vascular disease is selected from the group consisting of arteriosclerosis, cardiovascular disease, cerebrovascular disease, renovascular disease, mesenteric vascular disease, pulmonary vascular disease, ocular vascular disease and peripheral vascular disease.

19. The method of claim 1, wherein the subject has had a primary vaso-occlusive event.

20. The method of claim 1, wherein the subject has a condition selected from the group consisting of hypercholesterolemia, hypertension and atherosclerosis.

21. The method of claim 1, wherein the subject will undergo an elective surgical procedure.

22. The method of claim 1, wherein the subject has undergone a surgical procedure.

23. The method of claim 21, wherein the surgical procedure is selected from the group consisting of coronary angiography, coronary stent placement, coronary by-pass surgery, carotid artery procedure, peripheral stent placement, vascular grafting, thrombectomy, peripheral vascular surgery, vascular surgery, organ transplant, artificial heart transplant, vascular angioplasty, vascular laser therapy, vascular replacement and vascular stenting.

24. The method of claim 22, wherein the surgical procedure is selected from the group consisting of coronary angiography, coronary stent placement, coronary by-pass surgery, carotid artery procedure, peripheral stent placement, vascular grafting, thrombectomy, peripheral vascular surgery, vascular surgery, organ transplant, artificial heart transplant, vascular angioplasty, vascular laser therapy, vascular replacement and vascular stenting.

26. The method of claim 25, wherein the effective amount is in the range of 0.001 mg/kg/day to 30 mg/kg/day.

27. The method of claim 1, wherein platelet count is reduced by at least 50%.

28. The method of claim 1, wherein platelet count is reduced by at least 20%.

29. The method of claim 1, wherein platelet count is reduced to below 250×10^3 platelets per μl.

30. The method of claim 1, wherein platelet count is reduced to below 200×10^3 platelets per μl.

31. The method of claim 1, wherein platelet count is reduced to below 150×10^3 platelets per μl.

32. The method of claim 1, wherein platelet count is reduced to below 100×10^3 platelets per µl.

33. The method of claim 1, wherein platelet count is reduced by at least 10% and to below 200×10^3 platelets per µl.

34. The method of claim 1, wherein the MPL inhibitory agent is administered with an agent for treating vascular disorder or vascular complication.

35. The method of claim 34, wherein the an agent for treating vascular disorder or vascular complication is an anti-thrombotic agent.

36. The method of claim 35, wherein the anti-thrombotic agent is selected from the group consisting of anti-coagulant agents, fibrinolytic agents and inhibitors of platelet function.

37. The method of claim 36, wherein the inhibitors of platelet function are selected from the group consisting of aspirin, abciximab, clopidogrel and dipyridamole.

38. The method of claim 36, wherein the anti-coagulant agents are selected from the group consisting of glycosoaminoglycans and vitamin K antagonists.

39. The method of claim 36, wherein the fibrinolytic agents are selected from the group consisting of plasminogen activators, plasmin and plasminogen.

40. The method of claim 39, wherein the plasminogen activators are selected from the group consisting of tissue plasminogen activator (TPA), streptokinase and urokinase.

41. The method of claim 21, wherein the MPL inhibitory agent is administered prior to the elective surgery.

42. The method of claim 1, wherein the MPL inhibitory agent is administered by a parenteral route.

43. The method of claim 1, wherein the MPL inhibitory agent is administered by an enteral route.

44. The method of claim 1, wherein the MPL inhibitory agent is administered in a sustained release device.

45. The method of claim 19, wherein the MPL inhibitory agent is administered following the primary vaso-occlusive event.

46. The method of claim 1, wherein the MPL inhibitory agent binds to an MPL receptor.

47. The method of claim 1, wherein the MPL inhibitory agent binds to a thrombopoietin molecule.

48. A sustained release device comprising an MPL inhibitory agent that reduces platelet count in a subject, wherein the agent is released for at least 7 days.

49. The sustained release device of claim 48, further comprising a blood modifying agent.

50. The sustained release device of claim 49, wherein the blood modifying agent is selected from the group consisting of an anti-coagulant agent, a fibrinolytic agent and an inhibitor of platelet function

51. The sustained release device of claim 48, wherein the MPL inhibitory agent is released in an amount effective to reduce platelet count in a subject to below normal levels.

52. The sustained release device of claim 48, wherein the MPL inhibitory agent is released at a rate ranging from 0.01 μg/kg/day to 30 mg/kg/day.

53. The sustained release device of claim 48, wherein the MPL inhibitory agent is released for at least 30 days.

54. The sustained release device of claim 48, wherein the MPL inhibitory agent is released for at least 6 months.

55. The sustained release device of claim 48, wherein the MPL inhibitory agent is released for at least 1 year.

56. The sustained release device of claim 48, wherein the MPL inhibitory agent is released for at least 5 years.

57. The sustained release device of claim 48, wherein the MPL inhibitory agent is released in an effective amount that does not affect platelet function.

58. A pharmaceutical preparation comprising

an amount of an agent that inhibits signal transduction from an MPL receptor effective to reduce platelet count, and

a pharmaceutically acceptable carrier.

59. A pharmaceutical preparation comprising

an amount of an agent that binds to an MPL receptor effective to reduce platelet count, and

a pharmaceutically acceptable carrier.

60. The pharmaceutical preparation of claim 59, wherein the agent binds to an extracellular region of an MPL receptor.

61. A pharmaceutical preparation comprising

an amount of an agent that binds to a thrombopoietin molecule effective to reduce platelet count, and

a pharmaceutically acceptable carrier.

62. A pharmaceutical preparation comprising

an amount of an agent that binds to an intracellular tyrosine kinase that modulates signal transduction from an MPL receptor effective to reduce platelet count, and

a pharmaceutically acceptable carrier.

63. A pharmaceutical preparation comprising

an amount of an agent that inhibits binding of a thrombopoietin molecule to an MPL receptor effective to reduce platelet count, and

a pharmaceutically acceptable carrier.

64. The pharmaceutical composition of claim 58, 59, 60, 61, 62 or 63, wherein platelet count is reduced to below normal levels.

65. The method of 34, wherein the an agent for treating vascular disorder or vascular complication is selected from the group consisting of anti-inflammatory agents, anti-thrombotic agents, anti-platelet agents, fibrinolytic agents, lipid reducing agents, direct thrombin inhibitors, glycoprotein IIb/IIIa receptor inhibitors, agents that binds to cellular adhesion molecules and inhibit the ability of white blood cells to attach to such molecules, calcium channel blockers, beta-adrenergic receptor blockers, cyclooxygenase-2 inhibitors, and angiotensin system inhibitors.

66. The method of claim 1, wherein the platelet count is reduced to below normal levels.

67. A method for treating a subject having above normal platelet count comprising administering to the subject in need of such treatment an MPL pathway inhibitory agent in an amount effective to reduce platelet count.